

## **Europäisches Patentamt European Patent Office** Office européen des brevets



EP 1 431 664 A3 (11)

(12)

## **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 18.01.2006 Bulletin 2006/03 (51) Int Cl.: F23R 3/60 (2006.01)

(43) Date of publication A2: 23.06.2004 Bulletin 2004/26

(21) Application number: 03256559.0

(22) Date of filing: 17.10.2003

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR **Designated Extension States:** 

**AL LT LV MK** 

(30) Priority: 20.12.2002 US 326209

(71) Applicant: GENERAL ELECTRIC COMPANY Schenectady, NY 12345 (US)

(72) Inventors:

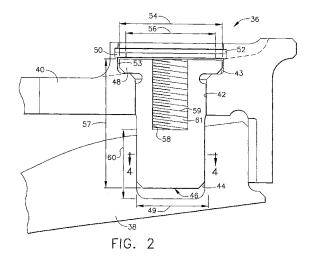
· Mitchell, Krista Anne **Springboro** Ohio 45066 (US)

· Noe, Mark Eugene Morrow Ohio 45152 (US)

· Wells, Thomas Allen **West Chester** Ohio 45069 (US)

· Bulman, David Edward Cincinnati Ohio 45243 (US)

- · Hansel, Harold Ray Mason Ohio 45040 (US)
- Glynn, Christopher Charles Hamilton Ohio 45013 (US)
- Bibler, John David Tucson Arizona 85715 (US)
- · Charneski, Joseph John Maineville Ohio 45069 (US)
- · Darkins, Toby George Jr. Loveland Ohio 45140 (US)
- · Burns, Craig Patrick Mason Ohio 45013 (US)
- (74) Representative: Pedder, James Cuthbert et al **London Patent Operation,** General Electric International, Inc., 15 John Adam Street London WC2N 6LU (GB)
- (54)Mounting assembly for the aft end of a ceramic matrix composite liner in a gas turbine engine combustor
- A mounting assembly (36) for an aft end (38) of a liner of a gas turbine engine combustor includes a support member (40). The mounting assembly (36) includes a pin member (46) extending through each one of a plurality of circumferentially spaced openings (42) in a portion of the support member (40) for the combustor and into a plurality of partial openings (44) formed in the aft end (38) of the liner, with each pin member (46) including a head portion (48) at one end thereof, and a device (50) positioned within each opening (42) in the support member (40) so as to retain the pin members (42) therein. The pin members (42) and the support member (40) are able to slide radially and/or axially with respect to the liner aft end (38) as the support member (40) experiences thermal growth greater than the liner.





## **EUROPEAN SEARCH REPORT**

Application Number EP 03 25 6559

	DOCUMENTS CONSIDER					
Category	Citation of document with indic of relevant passages		oriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
X Y	US 5 224 825 A (STRAM 6 July 1993 (1993-07- * column 1, line 10 - * column 2, line 37 -	-06) - line 18 *		1,5 2-4,6-10	F23R3/60	
Υ	* column 5, line 6 - US 3 369 366 A (HOWAI 20 February 1968 (196 * column 4, line 60 -	line 17 *  D WERNER ER 58-02-20)	NST)	2-4		
Y	US 5 291 732 A (HALII 8 March 1994 (1994-03 * column 1, line 57 - * column 2, line 47 - * column 8, line 33 -	3-08) - column 2, - line 55 *		6-10		
A	EP 1 265 032 A (SNECM 11 December 2002 (200 * paragraphs [0002], figure 3 *	2-12-11)		1,6-10	TECHNICAL FIELDS	
A	EP 1 152 191 A (GENER 7 November 2001 (2001 * paragraphs [0007],	L-11-07)		1,10	F23R F01D F02C	
А	US 2 839 894 A (SHUTT 24 June 1958 (1958-06 * column 2, line 7 -	5-24)	T AL)	6-8		
	The present search report has been place of search The Hague	Date of comple	aims ution of the search ember 2005	Mou	Examiner gey, M	
X : part Y : part docu A : tech	ATEGORY OF CITED DOCUMENTS ioularly relevant if taken alone ioularly relevant if oombined with another unent of the same category nological background	E C L 		ment, but publis the application other reasons	hed on, or	
	-written disclosure rmediate document	8	: member of the sar document	ne patent family,	corresponding	

## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 03 25 6559

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-11-2005

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5224825	Α	06-07-1993	JP	5222953	Α	31-08-199
US 3369366	Α	20-02-1968	NONE			
US 5291732	Α	08-03-1994	NONE			
EP 1265032	Α	11-12-2002	DE FR JP US	60201467 2825780 2003035104 2002184891	A1 A	11-11-200 13-12-200 07-02-200 12-12-200
EP 1152191	Α	07-11-2001	JP PL US	2001317739 346261 6397603	Α1	16-11-200 19-11-200 04-06-200
US 2839894	Α	24-06-1958	NONE			

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82